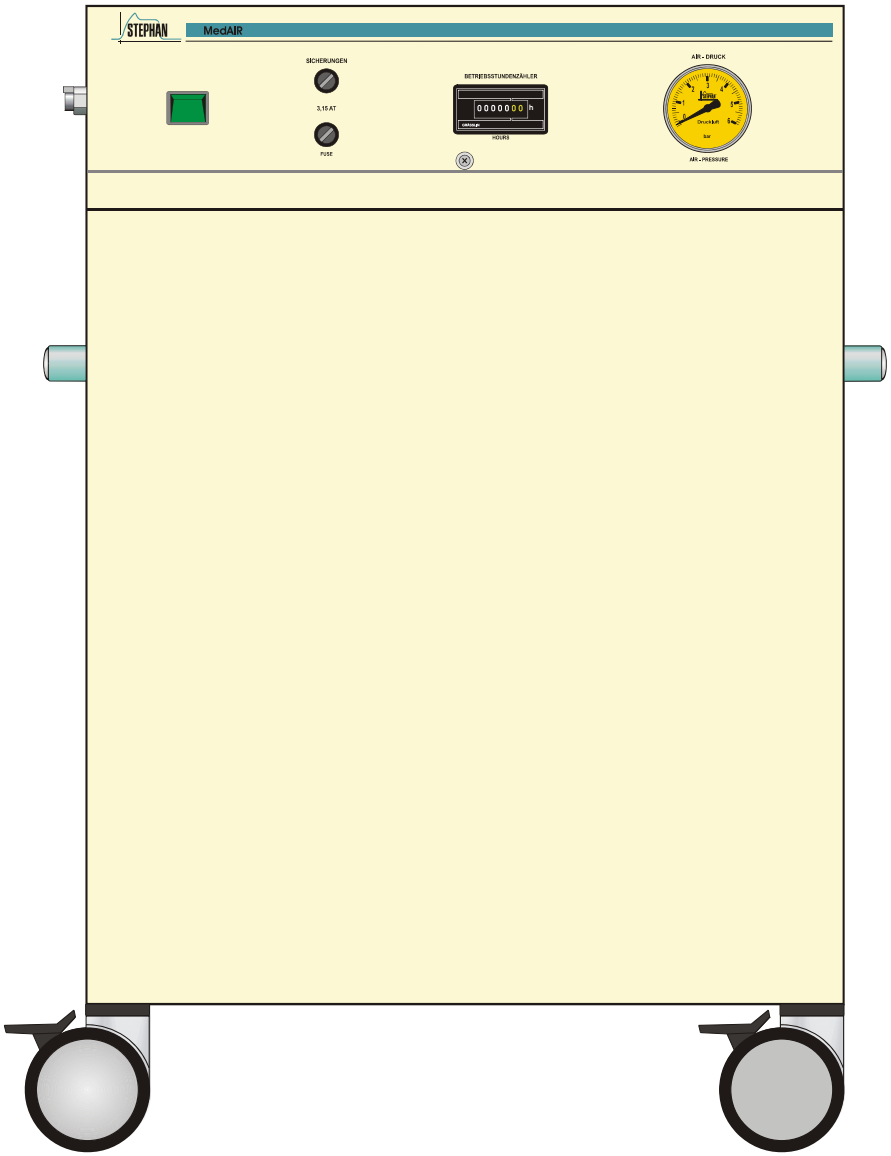
MedAir

Mobile Compressed Air Unit



Operating and service Instructions

CE 0482

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The present Operating and service Instructions are written to give the operator a clear and concise guide as to the operation and care of the **MedAirs** mobile compressed-air unit, and to answer any questions that might arise.

This manual does not contain any information as to repair and assembly of the system.

Should there arise any problems with the functioning of the system, please get in touch with the Technical Support team at F. Stephan GmbH, or the authorized dealer from whom you have received the equipment and received training in its use.

The manufacturer guarantees the safety and reliability of the **MedAirs**, only when the equipment is operated in compliance with the Operating Instructions.

F. Stephan GmbH
- Medizintechnik -
Kirchstraße 19

56412 Gackenbach, Germany

Technical data subject to change.

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1. General Information

1.1. Product combinations

F. Stephan GmbH will not consider any warranty claims in the event of use of unauthorized equipment combinations with products not licensed by the manufacturer or approved for compatibility.

Use only those accessories and replacement parts as found in Section 8 on page 13.

1.2. Equipment designation and manufacturer

Equipment designation: **MedAir**

Article number: **1 610 61 000**

Manufacturer:

F. Stephan GmbH
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Kirchstraße 19
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1.3. Designated application

The **MedAir** generates compressed-air for use in ventilating and anesthesia equipment that operate with an inlet pressure of 3 to 6 bar and producing compressed-air at 45 l/min.
The quality of the medical compressed-air meets the requirements of DIN EN 12021

The **MedAir** is designed for use in dry areas free from spray and dripping water. Moist or wet ambient conditions can greatly impair the functioning of the equipment.

1.4. Packaging and waste disposal

The packaging used to pack this system consists primarily of recyclable or reuseable materials.

The cardboard cartoning can be reused or disposed of as waste paper.

The immediate wrapping around the system is of CFC-free material. It can be disposed of along with the foil using the recyclable waste bin.

1.5. Introduction

The German Equipment Regulations (MPG), the Medical Products Operations Act (MPBetreibV) and the law governing technical materials stipulate that the attention of the user/operator must be drawn to the following points:

- Operation of the equipment should be carried out only by trained and authorized personnel. A thorough knowledge of the Operating Instructions is a prerequisite for operating this equipment.
- Carefully read and comply with the Operating Instructions. Flawless functioning of the **MedAir** and the safety of the patient and operator can only be guaranteed when these instructions are carefully observed.
- Use the **MedAir** only for the purpose as stipulated in these Operating Instructions.
- Insufficient care and operating error can lead to operational failure and accidents.
- The Operating Instructions must always be at hand where the equipment is being used.

Warranty claims arising from improper operation, insufficient servicing and maintenance shall not be acknowledged by the manufacturer.

The manufacturer guarantees the safety and dependability of the **MedAirs**, only when it is operated in accordance with the Operating Instructions.

1.6. Abbreviations and technical terminology

AIR medical quality compressed air

1.7. Technical Data

Ambient conditions

Operation:	Temperature:	15 –40 °C
	Operating pressure:	max. 3.5 bar
Storage:	Temperature:	15 – 40 °C
	rel. humidity:	10 – 65 %
	protect against moisture and humidity	
	store dust-free and free from frost	

Electrical supply

Mains power:	230V / 50Hz
Power consumption:	250 W
Current consumtion:	approx. 5A
Power output:	600 VA
Fuse protection:	3.15 AT
Noise level:	45 dB (A)
Operating pressure:	3.5 bar
Output flow:	0 – 45 l/min

General

Protection rating:	I
Inspection / maintenance:	annually or every 3500 operating hours
Dimensions (L x W x H):	500x510x1150
Weight:	50 kg
Operating position:	up-right

2. Safety Instructions

The folowing safety instructions will be repeated at all relevant sections of the Operating Instructions and must be complied with at all times.

Indicates a danger that, in the event of non-compliance, could lead to life-threatening injuries for the patient and/or the operator.

Indicates a caution that, in the event of non-compliance, could lead to malfunctioning of, damage to, or defects on the equipment, and possibly endanger the patient.

2.1. Danger warnings

The **MedAir** may be operated only by trained and authorized personnel. The **MedAir** must be operated in accordance with these Operating Instructions.

The **MedAir** may not be operated in areas exposed to a danger of explosion.

The equipment may not be operated without a micro-filter.

The air intake filter on the rear side may not be covered by any objects.

In order to ensure an optimal supply of fresh air and air circulation the equipment is only to be operated in an adequate sized room which is well-ventilated and preferably dust-free. Otherwise this can be seriously damaging to the equipment.

2.2. Caution warnings

For medical/technical equipment with electrical connection, DIN EN 60601-1 and VDE 0751-1 are to be complied with. Accordingly, such equipment may only be put into initial operation by the manufacturer or authorized technical support personnel.

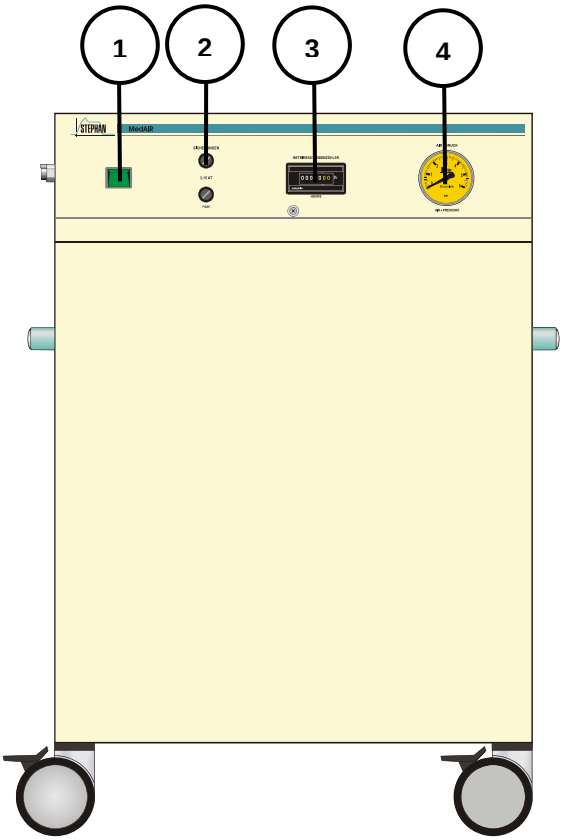
3. Description of the Design and Functioning

The **MedAir** – compressor has dew point reduction, grit filter, preliminary filter, bacterial filter and an additional condensation water extractor.

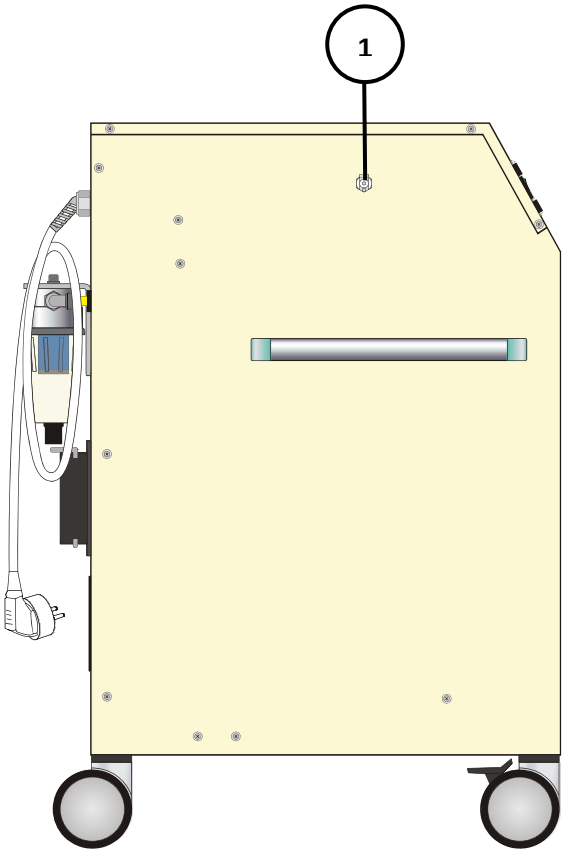
The **MedAir** is mobile, vibration and sound insulated. A side rail, 25x10 mm, allows the mounting of additional equipment.

Monitoring and operation are via a control panel with mains power switch, operating hours counter, fuses and pressure gauge.

3.1. Front view

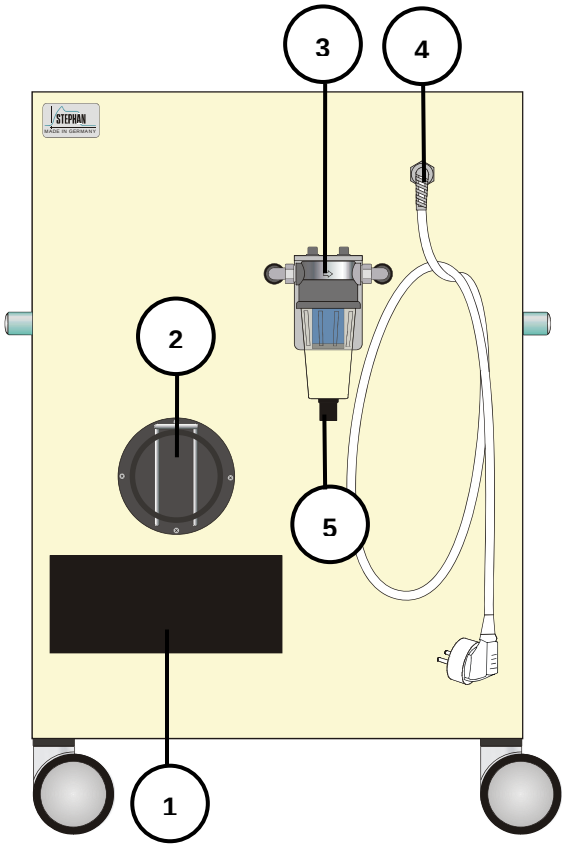


1. Power switch »ON/OFF«
2. Fuses 3.15 AT
3. Operating hours counter
4. Pressure gauge



3.2. Side view, left

1. AIR – outlet coupling



3.3. Rear view

1. Air intake filter matting
2. Bacterial micro-filter with the intake sound damper positioned behind
3. Moisture micro-filter with moisture micro-filter insert
4. Mains power connection cable
5. Drainage valve

Depending on fill level, the condensation water is to be drained from catch tank.
For doing this, the drainage valve lever (5) must be pushed upwards.

4. Preparing the Equipment for Operation

4.1. Setting up the MedAir

The **MedAir** is designed for use in dry areas free from spray and dripping water. Moist or wet ambient conditions can greatly impair the functioning of the equipment.

The ambient temperature may not exceed +40 °C.

Should the relative humidity exceed 70 %, it is recommended that the equipment only be operated in air-conditioned areas.

The air intake filter positioned at the rear of the unit may not be covered by any objects.

The rear side of the unit must be at least 10 cm from the wall.

4.2. Connection to the mains power supply

Check to determine whether the mains power voltage matches the power voltage as indicated on the rating plate on the unit.

Make sure that the mains power switch "ON/OFF is in the OFF position.

Plug the mains power connection cable found at the rear of the unit into the wall socket-outlet in the room.

5. Operation

To turn on the unit, press the "ON/OFF switch found at the front side of **MedAirs** to on position.

After switching on the unit, the ventilator of the **MedAirs** is activated which ensures adequate cooling of the unit's interior. Generation of compressed air begins approximately 10 seconds after that. The compressor of the **MedAirs** builds up an operating pressure of 3.8 bar in approximately 4 seconds.

The pressure gauge on the front side of the unit shows the pressure at the AIR outlet.

The outlet connection coupling is positioned on the left side of the **MedAirs** unit.

6. Problems, Causes and Remedies

Problem	Cause	Remedy
No pressure	No mains power	Check mains power connection
Outlet pressure falls below 1.5 bar	Micro-filter is dirty or clogged. Leakage in line. Defective compressor Gas usage is too high	Replace micro-filter Contact Technical Support Reduce gas usage
Pressure continuously below 3.5 bar	Intake sound damper is dirty Defective pressure safety valve	Replace intake sound damper Replace defective presurre safety valve
Not functioning	Mains power failure	The equipment automatically restarts after a response delay of 10 seconds.

7. Care and Servicing

7.1. Cleaning

For reasons of hygiene, the unit should regularly be cleaned with a wipe disinfectant using a commercially available household detergent or disinfectant (e.g. Sagrotan).

The intake filter matting and the bacterial micro-filter must be replaced every 6 months or after every 500 operating hours.

The intake sound damper should be replaced when found dirty or at least every 6 months.

7.2. Safety technical inspections

Safety technical inspections as well as checking the quality of air generated are to be carried out annually or after 3500 operating hours by the manufacturer or by the authorized Technical Support team of F. STEPHAN.

7.3. Servicing

For reasons of safety, it is recommended that the servicing of the **MedAirs** be carried out annually in conjunction with the safety technical inspections.

Servicing is to be carried out only by the authorized Technical Support team of F. STEPHAN.

Only original replacement parts supplied by F. STEPHAN are to be used.

8. Accessories / Replacement Parts

Replacement parts:

Item.	Article number	Article desription	Servicing intevals
1	1 804 60 007	Fuses 3.15 AT	when defect
2	1 600 61 123	Intake filter matting	semiannually / 500 op. hours
3	1 600 60 115	Bacterial micro-filter	semiannually / 500 op. hours
4	1 600 40 046	Intake sound damper	semiannually / dirt degree
5	1 925 60 362	Moisture micro-filter insert	yearly
6	1 950 60 031	O-Ring 4.47 x 1.78 for nippel coupling, AIR	when leakage detected

Items 1 to 6 can be ordered in a set (Art.No. : 1 610 61 500), which is sufficient for three years. The set additionally includes a replacement parts case and diverse small parts

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Optional accessories:

Item	Article number	Article description	Quantity
1	1 602 61 112	Connection hose for compressed air, length 3 m	1
2	1 600 40 010	Shock-proof socket rail, 4-fold mounted on rear of unit	1
3	1 600 61 050	Stand with upper monitor console 700 x 400mm mobile with 4 double castors, 100mm, antistatic	1
4	1 600 60 214	Compressed air membrane drier (with grating 1µm and micro-filter 0.01 µm)	1
5	1600 60 215	Micro-filter with float divertor	1

9. Warranty

The manufacturer grants a warranty of 24 months, beginning at purchase date.

Modifications or repair work may only be carried out by the manufacturer, F. Stephan GmbH, or authorized technicians. Otherwise the warranty becomes void.

Warranty shall also become void as a result of improper use and treatment of the equipment.

Personal Notes